## SEQUENCE LISTING

```
<110> Forschungszentrum Juelich GmbH
<120> Method for Microbial Production of L-Serine
<130> 23369
<140>
<141>
<160> 6
<170> PatentIn Ver. 2.1
<210> 1
<211> 1449
<212> DNA
<213> Corynebacterium glutamicum
<400> 1
toqtqcaact toaqactott acqqaqqcqa tqqaccaaaa acaactacaa toaaqcaqat 60
caccttgtac accaccatag aaaaggccca ccctcagcca tggctatcag tgttgttgat 120
ctatttagca teggtategg accateatee teacataceg teggeeceat gagageegee 180
ctcacqtata tctctqaatt tcccaqctcq catqtcqata tcacqttqca cqqatccctt 240
gccgccaccg gtaaaggcca ctgcactgac cgggcggtat tactgggtct ggtgggatgg 300
gaaccaacga tagttcccat tgatgctgca ccctcacccg gcgcgccgat tcctgcgaaa 360
qqttctqtqa acqqqccaaa qqqaacqqtq tcqtattccc tqacqtttqa tcctcatcct 420
cttccagaac accccaatgc cgttaccttt aaaggatcaa ccacaaggac ttatttgtcg 480
gtgggtggtg ggttcattat gacgttggag gatttccgga agctggacga tatcggatca 540
ggtgtgtcaa ccattcatcc agaggcagag gtgccttgtc cttttcagaa gagttcccaa 600
ttactcgcat atggtcgcga ttttgcggag gtcatgaagg ataatgagcg cttaatccac 660
qqqqatcttq qcacaqtqqa tqcccatttq qatcqaqtqt qqcaqattat qcaqqaqtqc 720
gtggcacaag gcatcgcaac gccggggatt ttaccgggtg ggttgaatgt gcaacgtcgg 780
gcgccgcagg tacacgcgct gattagcaac ggggatacgt gtgagctggg tgctgatctt 840
qatqctqtqq aqtqqqtqaa tctqtacqcc ttqqcqqtqa atqaaqaaaa cqccqctqqt 900
ggtcgtgtgg ttactgctcc gactaatggt gctgcgggga ttattccggc ggtgatgcac 960
tatgcgcggg attttttgac aggttttggg gcggagcagg cgcggacgtt tttgtatacc 1020
qcqqqtqcqq tqqqcatcat cattaaqqaa aatqcctcqa tctctqqcqc qqaqqtqqqq 1080
tgtcagggtg aggttggttc agcgtccgcg atggcggctg ccgggttgtg tgcagtctta 1140
ggtggttete egcaacaggt ggaaaacgce geggagattg egttggagca caatttggga 1200
ttgacgtgcg atccggtggg cgggttagtg cagattccgt gtattgaacg caacgctatt 1260
gctgccatga agtccatcaa tgcggcaagg cttgcccgga ttggtgatgg caacaatcgc 1320
gtgagtttgg atgatgtggt ggtcacgatg gctgccaccg gccgggacat gctgaccaaa 1380
tataaggaaa cgtcccttgg tggtttggca accaccttgg gcttcccggt gtcgatgacg 1440
gagtgttag
                                                                  1449
<210> 2
<211> 449
<212> PRT
<213> Corynebacterium glutamicum
Met Ala Ile Ser Val Val Asp Leu Phe Ser Ile Gly Ile Gly Pro Ser
 1
                                                         15
Ser Ser His Thr Val Gly Pro Met Arq Ala Ala Leu Thr Tyr Ile Ser
```

25

20

G1u	Phe	Pro 35	Ser	Ser	His	Val	Asp 40	Ile	Thr	Leu	His	Gly 45	Ser	Leu	Ala
Ala	Thr 50	Gly	Lys	Gly	His	Cys 55	Thr	Asp	Arg	Ala	Va1 60	Leu	Leu	Gly	Leu
Val 65	Gly	Trp	Glu	Pro	Thr 70	Ile	Val	Pro	Ile	Asp 75	Ala	Ala	Pro	Ser	Pro 80
Gly	Ala	Pro	Ile	Pro 85	Ala	Lys	Gly	Ser	Val 90	Asn	Gly	Pro	Lys	Gly 95	Thr
Val	Ser	Tyr	Ser 100	Leu	Thr	Phe	Asp	Pro 105	His	Pro	Leu	Pro	Glu 110	His	Pro
Asn	Ala	Val 115	Thr	Phe	Lys	Gly	Ser 120	Thr	Thr	Arg	Thr	<b>Tyr</b> 125	Leu	Ser	Val
Gly	Gly 130	Gly	Phe	Ile	Met	Thr 135	Leu	Glu	Asp	Phe	Arg 140	Lys	Leu	Asp	Asp
11e 145	Gly	Ser	Gly	Val	Ser 150	Thr	Ile	His	Pro	Glu 155	Ala	Glu	Val	Pro	Cys 160
Pro	Phe	Gln	Lys	Ser 165	Ser	Gln	Leu	Leu	Ala 170	Tyr	Gly	Arg	Asp	Phe 175	Ala
Glu	Val	Met	Lys 180	Asp	Asn	Glu	Arg	Leu 185	Ile	His	Gly	Asp	Leu 190	Gly	Thr
Val	Asp	Ala 195	His	Leu	Asp	Arg	Val 200	Trp	Gln	Ile	Met	G1n 205	Glu	Cys	Val
Ala	Gln 210	Gly	Ile	Ala	Thr	Pro 215	Gly	Ile	Leu	Pro	Gly 220	Gly	Leu	Asn	Val
G1n 225	Arg	Arg	Ala	Pro	G1n 230	Val	His	Ala	Leu	11e 235	Ser	Asn	Gly	Asp	Thr 240
Сув	Glu	Leu	Gly	A1a 245	Asp	Leu	Asp	Ala	Val 250	Glu	Trp	Val	Asn	Leu 255	Tyr
Ala	Leu	Ala	Val 260	Asn	Glu	Glu	Asn	Ala 265	Ala	Gly	Gly	Arg	Val 270	Val	Thr
Ala	Pro	Thr 275	Asn	Gly	Ala	Ala	Gly 280	Ile	Ile	Pro	Ala	Val 285	Met	His	Tyr
Ala	Arg 290	Asp	Phe	Leu	Thr	Gly 295	Phe	Gly	Ala	Glu	Gln 300	Ala	Arg	Thr	Phe
Leu 305	Tyr	Thr	Ala	Gly	Ala 310	Val	Gly	Ile	Ile	11e 315	Lys	Glu	Asn	Ala	Ser 320
Ile	Ser	Gly	Ala	G1u 325	Val	Gly	Cys	Gln	G1y 330	Glu	Val	Gly	Ser	A1a 335	Ser
Ala	Met	Ala	A1a 340	Ala	Gly	Leu	Cys	A1a 345	Val	Leu	Gly	Gly	Ser 350	Pro	Gln

Gln																
	Val	Glu 355	Asn	Ala	Ala	Glu	11e 360	Ala	Leu	Glu	His	Asn 365	Leu	Gly	Leu	
Thr	Cys 370	Asp	Pro	Val	Gly	G1y 375	Leu	Val	Gln	Ile	Pro 380	Сув	Ile	Glu	Arg	
	370					373					300					
	Ala	Ile	Ala	Ala		Lys	Ser	Ile	Asn		Ala	Arg	Leu	Ala		
385					390					395					400	
Ile	Gly	Asp	Gly		Asn	Arg	Val	Ser		Asp	Asp	Val	Val		Thr	
				405					410					415		
Met	Ala	Ala	Thr	Gly	Arg	Asp	Met	Leu	Thr	Lys	Tyr	Lys	Glu	Thr	Ser	
			420					425					430			
Leu	Glv	Gly	Leu	Ala	Thr	Thr	Leu	Glv	Phe	Pro	Val	Ser	Met	Thr	Glu	
	2	435					440					445				
Cys																
СУБ																
<210	)> :	3														
<211																
<212	?> 1	ANO														
<213	3> (	Cory	nebad	cter	ium (	71 m+										
						g = u c .	zmrc.	um								
						<b>,</b>	am I C	um								
						<b>,</b> .	ama c	um								
		3 act 1	caga	actc		<b>,</b> .	am C	um								
tegt	gca	act 1	tcaga	actc		<b>,</b>	am I C	um								
tcgt <210	:gca	act 1	caga	actc		<b>.</b>	am I C	um								
tcgt <210 <211	gca:	act 1	tcaga	actc		<b>.</b>	am I C	um								
<210 <211 <212	gca:	act 1														
<210 <211 <212	gca:	act 1														
<210 <211 <212 <213	)> :  > :  > :	4 39 DNA Cory														
<210 <211 <212 <213	)> :  > :  > :  > :	4 39 DNA Cory	nebad	cteri	ium (	gluta	amic	um	<b>a</b> ccc:	acc						
<210 <211 <212 <213	)> :  > :  > :  > :	4 39 DNA Coryr	nebad	cteri	ium (	gluta	amic	um	accc:	acc						
<210 <211 <212 <213	)> (1) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	4 39 DNA Corys	nebad	cteri	ium (	gluta	amic	um	<b>a</b> ccca	acc						
<210 <211 <212 <213 <400 ccca	)>	4 39 DNA Coryr	nebad	cteri	ium (	gluta	amic	um	accc:	acc						
<210 <211 <212 <213 <400 ccca	)>	4 39 DNA Coryr 4 act a	nebad	cteri	ium (	gluta	amic	um	<b>a</b> ccc:	acc						
<210 <211 <212 <213 <400 ccca <210 <211 <212	)>	4 39 DNA Coryr 4 act a	nebad	cteri	ium «	gluta	amic:	um t ga	accc:	acc						
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213	)>	4 39 DNA Coryr 4 act a	nebad	cteri	ium «	gluta	amic:	um t ga	accc.	acc						
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213	)>	4 39 DNA Coryr 4 act a	nebad	cteri	ium «	gluta	amic:	um t ga	accca	acc						
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213	200 (200 (200 (200 (200 (200 (200 (200	4 39 DNA Coryr 4 act a	nebac	cter:	ium (	glutz	amic ataa	um t ga.								
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213 <400 tgtt	)> : : : : : : : : : : : : : : : : : : :	44 4339 DNA Coryu 44 act a 55 39 DNA Coryu	nebac	cter:	ium (	glutz	amic ataa	um t ga.								
<210 <211 <212 <213 <400 <211 <212 <213 <400 <211 <212 <213 <400 <211 <212 <213		4 4 4 339 DDNA Coryi 4 act a 5 5 339 DDNA Coryi 6 6	nebac	cter:	ium (	glutz	amic ataa	um t ga.								
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213 <400 <211 <212 <213 <400 <211 <212		44 4339 DDNA Coryu 44 act a 55 339 DDNA Coryu 55 Sytt 1	nebac	cter:	ium (	glutz	amic ataa	um t ga.								
<210 <211 <212 <213 <400 ccca <211 <212 <211 <212 <211 <211 <211 <21		44 4339 DDNA Coryu 44 act 4 55 339 DDNA Coryu 66 18	nebac aaact nebac	cteri ttaaa	ium (	glut. egtc. glut.	ataa ataa amicu	uum t gaa uum t gg								
<210 <211 <212 <213 <400 ccca <210 <211 <212 <213 <400 <211 <212 <213 <400 <211 <212		44 4339 DDNA Coryu 44 act a 55 339 DDNA Coryu 55 Sytt 1	nebac aaact nebac	cteri ttaaa	ium (	glut. egtc. glut.	ataa ataa amicu	uum t gaa uum t gg								
<210 <211 <212 <213 <400 ccca <211 <212 <211 <212 <211 <211 <211 <21		44 4339 DDNA Coryu 44 act 4 55 339 DDNA Coryu 66 18	nebac aaact nebac	cteri ttaaa	ium (	glut. egtc. glut.	ataa ataa amicu	uum t gaa uum t gg								